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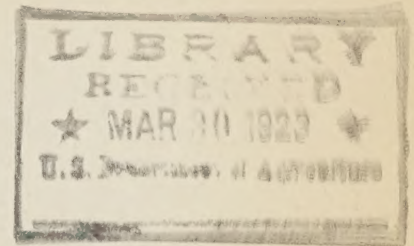
MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY
UNITED STATES DEPARTMENT OF AGRICULTURE

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SOUTHERN FIELD CROP INSECT INVESTIGATIONS

J. L. Webb, Entomologist Acting in Charge



Dr. W. D. Hunter and B. R. Coad attended the meeting of the Southern Agricultural Workers, held in Memphis, Tenn., from February 6 to 8. Mr. Coad delivered an address on boll weevil control.

The following resolution was adopted at this meeting:

"Whereas, the Cotton Belt is indebted to the United States Department of Agriculture through its representative, Mr. B. R. Coad, in charge of boll weevil investigation, for an effective method of boll weevil control and for the discovery of important entomological facts concerning the insect pests affecting cotton;

"Be it resolved, that this Association expresses its high appreciation of Mr. Coad as a scientist and recognizes his invaluable contributions to the cotton industry of the South."

Dr. Hunter also attended the meeting of the National Boll Weevil Conference held under the auspices of the American Cotton Association at Atlanta, Ga., February 20, and delivered an address on boll weevil control. Both Dr. Hunter and Mr. Coad were in Washington for several days following the Atlanta meeting.

W. E. Haley has been starting experiments in southern Louisiana with the new hot-water treatment of sugar cane. It has been found that soaking the cane in water heated to a certain degree destroys borers in the cane and at the same time hastens the germination of the stalks when planted.

J. W. Ingram, who has been in the sirup-producing section of southern Georgia for the winter, recently made a trip through Florida for observations on sugar-cane insects. He will soon go to Crowley, La., to start work on rice insects.

T. E. Holloway has just returned from a six weeks trip to the west coast of Mexico, including Lower California. Dr. W. M. Mann of the bureau, H. C. Millender of the Federal Horticultural Board, and M. Alcazar, delegated by the Mexican entomological service, made the trip at the same time and are now in Southern Mexico. A visit was made to Los Mochis, where R. H. Van Zwaluwenburg, entomologist of the United Sugar Companies and a former employee of the bureau, is testing various control measures against the sugar-cane moth borer.

GIPSY MOTH AND BROWN-TAIL MOTH INVESTIGATIONS

A. F. Burgess, Entomologist in Charge

Continuing the effort to secure beneficial species of parasites to aid in the fight against the gipsy and brown-tail moths, Samuel S. Crossman and Ray T. Webber, of the Gipsy Moth Laboratory, Melrose Highlands, Mass., will visit Europe during the spring and summer of 1923. Mr. Crossman spent several months in Europe in 1922 and as a result of his observations it has been deemed important to continue the work of importing, breeding, and colonizing beneficial European parasites of these two insects in this country. Most of the countries in Europe where the gipsy moth and the brown-tail moth occur will be visited and an earnest effort made to collect and ship to the Laboratory at Melrose Highlands, Mass., as large an amount of promising parasitic material as possible.

Dr. John N. Summers, who visited Japan last year for the purpose of securing parasites of the gipsy moth in that country, will leave for that country again in March to continue his studies of the gipsy moth and its parasites. He will collect and ship beneficial species to the United States for propagation and colonization within the gipsy moth-infested area.

FOREST INSECT INVESTIGATIONS

A. D. Hopkins, Forest Entomologist in Charge

In southern Oregon and northern California the Federal Government and private timber owners, under the direction of the Bureau of Entomology, Branch of Forest Insects, are cooperating to control an epidemic of the western pine beetle (Dendroctonus brevicornis Lec.). This epidemic extends over an area a little larger than the State of Delaware, in which, in the last ten years, the beetle has killed over a billion board feet of merchantable yellow pine timber valued at over \$3,600,000, or fifty times as much as has been killed by fire on the area during the same period.

In the work of the past year, 200 square miles of the project area was cleaned up; 11,449 infested trees containing 12,187,790 board feet were felled and the bark containing the broods of destructive beetles burned. This required a labor force of approximately 200 men working for two months during the spring and two months again in the fall, and cost \$55,246.19 to all agencies involved. The surveys conducted by the bureau in the late fall showed that the work had been very successful and had reduced the infestation 72 per cent in the areas worked, so that in one year enough timber had been saved to pay the costs of the work, and future reduction will be net profit.

GIPSY MOths AND BROWN-TAIL MOTH INVESTIGATIONS

A. F. Burgess, Entomologist in Charge

Continuing the effort to secure beneficial insects and parasites to aid in the fight against the gipsy and brown-tail moths, Daniel S. Greenman and Ray T. Fisher, of the Gipsy Moth Laboratory, Raleigh, N.C., will visit Europe during the spring and summer of 1925. Mr. Greenman spent several months in Europe in 1923 and as a result of his observations it has been deemed important to continue the work of importing, breeding, and colonizing beneficial European parasites of these two insects in this country. One of the countries in Europe where the gipsy moth and the brown-tail moth occur will be visited and an attempt will be made to collect and ship to the Laboratory at Raleigh, N.C., as large an amount of promising parasitic material as possible.

Dr. John H. Sumner, who visited Japan last year for the purpose of securing parasites of the gipsy moth in that country, will leave for that country again in March to continue his studies of the gipsy moth and its parasites. He will collect and ship beneficial species to the United States for propagation and colonization within the gipsy moth infested areas.

FOREST INSECT INVESTIGATIONS

A. D. Hopkins, Forest Entomologist in Charge

In western Oregon and northern California the Forest Service and private timber owners, under the direction of the Bureau of Entomology and Plant Quarantine, are conducting an extensive campaign against the western pine beetle (*Dendroctonus valens* Le.). This epidemic extends over an area of 100,000 acres in the States of California, Oregon, and Washington. In the last ten years, the beetle has killed over a billion dollars' worth of northwestern yellow pine timber valued at over \$1,000,000, or fifty times as much as has been killed by fire on the same area during the same period.

In the work of the past year, 500 square miles of the project area was cleaned up, 11,400 infested trees containing 15,100 board feet were killed and the bark containing the broods of destructive beetles removed. This required a labor force of approximately 100 men working for two months during the spring and two months again in the fall, and cost \$25,000. To all agencies involved, the surveys conducted by the Bureau in the last fall showed that the work had been very successful and that reduced the infestation 75 per cent in the areas worked, so that in one year enough timber had been saved to pay the costs of the work, and future reduction will be net profit.

The possibility of controlling forest insects over large areas of virgin forest has been demonstrated. The success of this project will mean a more general adoption of control methods throughout the pine forests of the West and the consequent saving of millions of board feet of timber from destruction by insects.

F. P. Keen, who has had charge of the entomological supervision of the Southern Oregon - Northern California pine beetle control project during the past year, visited Washington to confer with the chief of the Branch of Forest Insects in regard to plans for continuing the work during the coming year.

A statement in a resolution by the Society of American Foresters at the Boston Meeting, as published in Science, that Dr. Hopkins had resigned as chief of the Branch of Forest Insects was founded on rumor. Dr. Hopkins has for some years contemplated arrangements which would enable him to devote his entire time to research in bioclimatics, and while the carrying out of this plan is under consideration no change of duty has yet been made.

R. A. St. George returned to Washington on March 1 after a trip through Kentucky, Tennessee, Alabama, and Louisiana where he visited lumber companies to investigate insects injurious to finished and crude forest products. Cooperative experiments have been started with these companies to prevent future damage.

FRUIT INSECT INVESTIGATIONS

A. L. Quaintance, Entomologist in Charge

The bureau's laboratory at Fresno, Calif., in charge of A. J. Flebut, where grape insect investigations have been carried out for some years, has been discontinued and Mr. Flebut transferred to Lindsay, Calif., to undertake work on the citrus thrips and other fruit insects. The citrus thrips has become exceedingly troublesome in Central California during the last year or so.

A. C. Mason, who has long been associated with W. W. Yothers at the bureau's laboratory at Orlando, Fla., has been transferred to Lindsay, Calif., and will give special attention to biologic, ecologic, and other studies of the citrus thrips.

O. I. Snapp, in charge of the bureau's laboratory at Fort Valley, Ga., submits the following information: Many full-grown adults of the San Jose scale have been found during January and February in peach orchards in the vicinity of Fort Valley. These have been observed giving birth to young, and crawlers were abundant. The low temperatures of the week February 12 to 18, when the mercury went as low as 13°F. at this point, killed many of the matured scales. The cold weather appears to be more

effective against the full-grown adults than the caustic sprays. No temperatures below freezing have occurred here before the above dates.

E. R. Van Leeuwen, who has been associated with M. A. Yothers at Medford, Oreg., has been transferred to Riverton, N. J., where he will be assigned to duty in connection with the Japanese beetle project.

C. H. Hadley, in charge of the Japanese beetle project, writes as follows:

There has been in operation at the Japanese Beetle Laboratory at Riverton, N. J., during the winter an experimental refrigerating plant, which has an experimental range of from -5°F. to -32°F. This outfit has been specially designed for use in connection with experiments to determine the effect of low temperatures upon the grubs of the Japanese beetle and also upon plants, the soil-balls of which, surrounding the roots, are infested with grubs. Very satisfactory results have been obtained in so far as killing effect upon the grubs is concerned, and to date at least no apparent serious injury to plants subjected to comparatively low temperatures has been observed. It is planned to publish a description of the refrigerating outfit later on, after additional work has been done and the limits of usefulness of the apparatus determined.

The Japanese Beetle Club was organized at the laboratory several months ago and includes in its membership not only members of the bureau but also other men in any way officially connected with the Japanese beetle project. Meetings have been held regularly twice a month and several special meetings have also been held. A very entertaining and successful program has been followed. One of the purposes of the club is to encourage entomological interest on the part of its members along lines other than the Japanese beetle work, and in this connection papers have been presented by the members dealing with entomological problems in other parts of the country. Dr. L. O. Howard recently spoke before the club in a most entertaining manner on the development of economic entomology in this country. Other recent speakers who have addressed the Japanese Beetle Club have included Dr. E. D. Ball, Director of Scientific Research, of the Department of Agriculture, and Dr. D. Borodin. Dr. Ball spoke on the subject "The Training and Compensation of the Scientist," while Dr. Borodin, who is in charge of the New York Office of the Russian Bureau of Applied Botany and Entomology of the State Institute of Experimental Agronomy, gave a general talk on the status of economic entomology in Russia at the present time. C. R. Woodward, of the New Jersey Agricultural Experiment Station, New Brunswick, recently addressed the club on the subject of the preparation of scientific papers. From time to time a number of visiting entomologists have attended certain of the meetings.

Among recent visitors at the Japanese Beetle Laboratory were Messrs. H. B. Weiss and R. B. Lott of the New Jersey State Department of Agriculture, Dr. T. J. Headlee, State entomologist of New Jersey and E. R. Selkregg, formerly of the Bureau of Entomology.

Additional parasite shipments have been received at the laboratory during the late fall and winter, the last shipment from Japan arriving in early December.

Dr. William Moore of the Japanese Beetle Laboratory has resigned his position to accept an appointment with the American Cyanamid Company of New York. Dr. Moore will be located at New York and will be engaged in the supervision of research work for the company.

At the State Farm Products Show, held last month in Trenton, N. J., an exhibit was arranged showing the Japanese beetle and various phases of the work that is being conducted against it. A similar exhibit was prepared for the recent meeting of the National Canner's Association, held at Atlantic City, N. J. At Atlantic City the Japanese beetle exhibit was part of the Department of Agriculture exhibit.

TRUCK-CROP INSECT INVESTIGATIONS

F. H. Chittenden, Entomologist in Charge

Three or four years ago the Mexican bean beetle had been observed at elevations as high as 7,000 feet above sea level in New Mexico and not higher than 5,000 feet in Colorado. Quite recently authentic reports have been received of the occurrence of this pest at altitudes above 7,000 feet in New Mexico and one of its occurrence at Chaffee, Buena Vista County, Colo., at an elevation of 8,231 feet. In Mexico it is known to occur in Puebla, State of Puebla, at an elevation of 7,110 feet.

In writing of the distribution of this species in Colorado, Dr. C. P. Gillette, State entomologist, mentions the occurrence of this species at Salida last summer and of its spreading in Delta County on the Western Slope in the irrigated sections.

BEE CULTURE INVESTIGATIONS

E. F. Phillips, Apiculturist in Charge

The act of Congress approved August 31, 1922, provides that the Secretary of Agriculture and the Secretary of the Treasury may admit adult honeybees from countries in which it is determined that no diseases dangerous to adult honeybees exist, such importations otherwise being prohibited. On March 12 there was held a conference on this subject to which all interested persons were invited, for the purpose of discussing the distribution of the adult bee diseases in other countries and to make recommendations regarding the rules and regulations for which provision is made in the law. This law was passed primarily to prevent the introduction into the United States of a serious disease of adult honeybees, known as the Isle of

Wight disease, which is now found throughout Great Britain and in certain countries of continental Europe, and the conference dealt mainly with the situation in the several countries of Europe. It was the unanimous opinion of the conference that no importations should be made unless they may be made entirely without danger to the beekeeping interests of the country and that the greatest care should be exercised in making exceptions as provided in the law.

An effort will be made through the bureau to import such queenbees as shall be urgently needed from countries where desirable races of bees are found, subject to such examinations and quarantine by the bureau as shall be necessary. It was recommended by the conference that the Dominion of Canada be fully exempted from the prohibition of importations, since the Isle of Wight disease is not found in that country and since the Dominion has taken steps to prevent its introduction.

The regulations as suggested by the bureau were endorsed by the conference unanimously, with only minor verbal changes to prevent any misunderstanding of the regulations. These will not be effective until finally drafted and approved.

The following persons were among those present at the conference from outside Washington: R. B. Willson, New York State College of Agriculture, Ithaca, N. Y.; N. E. Phillips, Pennsylvania State College, State College, Pa.; George H. Rea, representative of the A. I. Root Co., Medina, Ohio; E. N. Cory, State entomologist, College Park, Md.; Kenneth Hawkins, The G. B. Lewis Company, Watertown, Wis.; T. K. Massie, State inspector of apiaries and president of State Beekeepers' Association, Hatcher, W. Va.

MISCELLANEOUS

Dr. W. T. M. Forbes, of Cornell University, is spending about three weeks in the section of insects comparing exotic Lepidoptera with the types and making other notes on the material in the National Collection.

S. W. Frost, of State College, Pa., a student especially interested in dipterous leaf-miners, has spent about two weeks studying the Diptera in the National Museum. He has devoted most of his time to species belonging to the family Agromyzidae.

H. S. Barber has recently returned from the West and brought with him a single specimen collected in California of the very rare and interesting genus *Grylloblatta*. The genus *Grylloblatta* has been made the type of a distinct order and heretofore was known only from specimens collected in British Columbia. This is the first species of this genus in the National Collection and is of such interest that Mr. Caudell has recently prepared a paper describing the specimen and giving notes on its occurrence. The specimen captured is an immature male and may possibly represent a second species of this monotypic genus, but because of the absence of sufficient material Mr. Caudell prefers to refer it, at least provisionally, to the described species.

Although termites comprise one of the commonest and most abundant groups of insects, especially in the Tropics, records of their association with Hymenoptera are rare. While in Brazil on the Mulford Expedition Dr. W. M. Mann fortunately collected specimens of two different and heretofore unknown Hymenoptera from the nests of two different species of white ants. These specimens have recently been referred to a new genus which is assigned to a new subfamily of the Braconidae and are described in detail by R. A. Cushman in a paper published in the second number of the current volume of the Proceedings of the Entomological Society of Washington.

LIBRARY

Mabel Colcord, Librarian

New Books

- Fletcher, T. B. Report of the imperial entomologist. In Pusa Agricultural Research Institute, Scientific Reports 1921-22, p. 51-67 Calcutta, 1922.
- Friese, Heinrich. Die europäischen bienen (Apidae). Das Leben und Wirken unserer Blumenwespen... Berlin u. Leipzig, 1922. Lfg. 1-2, col. plates 1-13.
- Gough, L.H. On the dispersion of the pink boll worm in Egypt. Cairo, Government Press, 1922. 20 p. (Egypt, Ministry of Agriculture Technical and Scientific Service Bulletin no. 24.)
- Hartley, E. A. Some bionomics of Aphelinus semiflavus (Howard), chalcid parasite of aphids. In Ohio Jour. Science, v. 22, no. 8, p. 209-236, plate I, June, 1922.
- Hubbell, T. H. Notes on the Orthoptera of North Dakota. Ann Arbor, Mich., Published by the University, July 1, 1922. 56 p. (Occasional papers of the Museum of Zoology, University of Michigan, No. 113.)
- Scott, L. C. Dengue fever in Louisiana. Jour. Amer. Med. Assoc., v. 80, no. 6, p. 387-393, Feb. 10, 1923.
- Smith, K. M. A study of the life-history of the onion fly (Hylemyia antiqua, Meigen). In Annals of Applied Biology, v. 9, no. 3 and 4, p. 179-183, pl. 10-11, Nov., 1922.
- Smulyan, M. T. New England sawflies of the genus Tenthredella Rohwar. In Boston Soc. Nat. Hist. Proc., v. 36, no. 6, p. 383-564, pl. 4-5, Jan., 1923.
- Wright, H. J. Plant pests and parasites; preventives and remedies. 32 p. London, "Country Life" Ltd., N.Y., C. Scribner's Sons, 1922.

